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First description of the male of *Prodidomus redikorzevi* Spassky, 1940 (Aranei: Prodidomidae)

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Abstract — *Prodidomus redikorzevi* Spassky, 1940 a species described from the southern Turkmenistan on the basis of female and known also in Kazakhstan is redescribed on the basis of material collected close to type locality. Its male is described for the first time, as well as the structure of vulva. Male of this species has very unusual conformation of the palp. Specimens from Turkmenistanare compared with similar specimens from Iran and Azerbaijan and some differences have been found between different populations that may reflect that each population studied represents separate species.

Key words — Prodidominae, spiders, Central Asia, Iran, Azerbaijan, redescription.

Introduction

Prodidomidae is small globally distributed gnaphosoid family with 302 species belonging to 30 genera (Platnick 2009). In northern hemisphere this family occurs in the south of 42°30′N. Great progress in study of this family has been achieved very recently thanks to the revisional works of Platnick and his coauthors (Platnick et al. 2005; Platnick & Baehr 2006, etc.). During the short period the number of known species almost doubled. In 2003 only 164 species have been known (Platnick 2003). Although great progress was achieved in study of taxa occurring in south hemisphere, Palaearctic Prodidomidae remains poorly studied. Of 10 species of *Prodidomus* Hentz 1847 (currently contains 53 species) occurring in Palaearctic the half are known exclusively by females. In addition three species are known by the only old paper of Dalmas (1919). Only one species of Prodidomidae was known in the former Soviet Union, *P. redikorzevi* Spassky, 1940. This species was described from southern Turkmenistan on the basis of the holotype female. Later, this species was reported from Kazakhstan (cf. Mikhailov 1997), but was not redescribed. Although figure of epigyne and brief description of *P. redikorzevi* was given by Cooke (1964), this description was not based on restudied holotype, but just on the paper of Spassky (1940). Studying some spider collections from Turkmenistan, I found a good series of *P. redikorzevi* which includes both females and males. As males of this species are unknown, and as females of *P. redikorzevi* are poorly known, I decided to provide illustrated description of both sexes.

Methods.

Specimens were photographed using an Olympus Camedia C-5050 camera attached to an Olympus SZX12 stereomicroscope. The images were montaged using “CombineZM” image stacking software. Photographs were taken in dishes with paraffin on the bottom. Holes were made in the bottom to keep specimens in the correct position. All specimens from Turkmenistan belong to Zoological Museum of the Moscow State University (ZMMU) and specimens from outside of Turkmenistan belong to Institute for biological Problems of the North (IBPN). All measurements are given in millimetres.

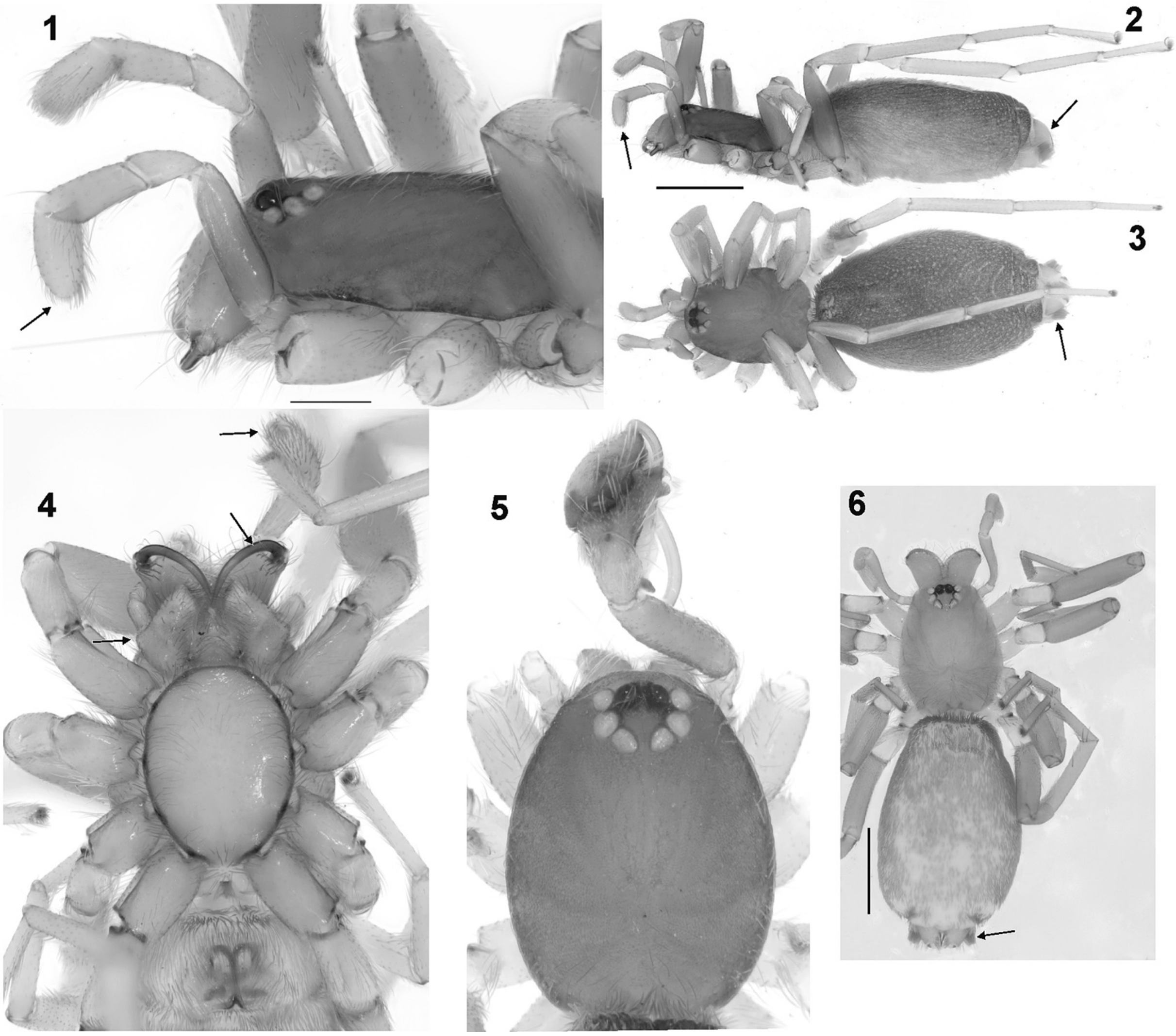
Prodidomus redikorzevi Spassky 1940
(Figs. 1–5, 7–11, 14–17)

Prodidomus redikorzevi. Spassky 1940, 362, pl. 7, f. 14–15 (D♀); Cooke 1964, 279, f. 14 (♀); Zyuzin et al. 1994, 8 (faunistic record).

P. redickorsevi [*sic*]: Zyuzin & Tarabev 1994, 401 (faunistic record).

Material examined. 7♂ 7♀ (ZMMU) Turkmenistan, Mary Area, Kushka Dist., ca 1.5 km NNE of Chemenbit, Kushka River valley, right riverside, ca. 520 m, 35°28′21″N 62°24′32″E, 5.04.2002 (A.V.Gromov). Comparative material of *Prodidomus* spp.: IRAN: *Fars Prov.*: 1♂ 1♀ (IBPN), 50 km NNE of Shiraz, Bamoo Reserve, 52°45′E 29°45′N, 18–28.05.2000 (Yu.M.Marusik); *Tehran Prov.*: 1♂ (IBPN), Latian Dam, 51°08′E 35°48′N, 6–19.06.2000 (Yu. M. Marusik). AZERBAIJAN: 2♀ (IBPN), environs of Baku, Gobystan, 40°05′N 49°25′E, mountain semidesert, 15.04. 2001 (Yu.M.Marusik).

Description. Somatic characters are almost the same as in type species of the genus, *P. rufus* Hentz, 1847 well described by Platnick (1976) and Platnick & Baehr (2006).



Figs. 1–6. *Prodidomus redikorzevi* (1–5) from Turkmenistan and *P. cf. redikorzevi* (6) from Azerbaijan. — 1, female prosoma, lateral; 2–3, 6, habitus of female, lateral and dorsal; 4, female, ventral; 6, male prosoma, dorsal. Arrows show peculiar characters. Scale＝1 mm.

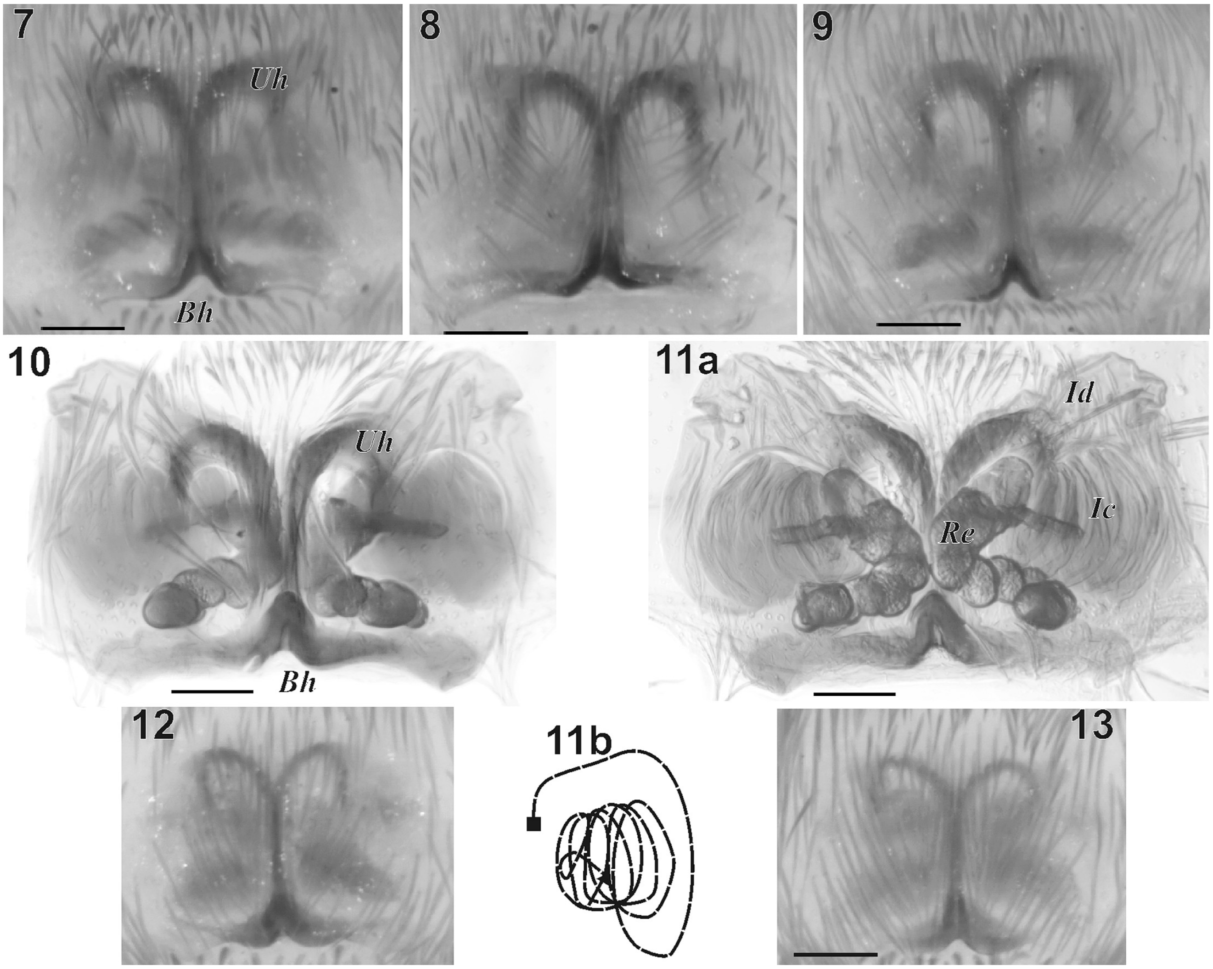
Therefore I will describe features characteristic for this species or features not mentioned in other descriptions.

Male. Total length 2.7–2.85. Carapace: 1.14–1.21 long, 0.91–1.0 wide. Body flattened. Carapace ovoid, uniformly red-brownish with darker margins. Chelicera, legs, endites, sternum lighter that carapace. Ocular area triangle-shaped, posterior lateral eyes largest. Posterior median eyes separated by less than their radius. Sternum almost geometrically oval. Abdomen without pattern, dorsum darker than venter. Tarsi and metatarsi III and IV with apical ventral spines.

Palp as in Figs. 5, 14–17. Femur and patella unmodified. Tibia with well developed RTA (*Ra*), subdivided on the top into three parts, and small spine-like dorsal apophysis (*Da*). Bulbus flattened, with long embolus (*Em*) making about two coils (720°), embolus starts in the center of tegulum on prolateral side (*Be*), tip of embolus slightly bent (*Eb*). Sclerite that looks like an embolus can be conductor which totally hides embolus. Tegulum with relatively small spine like outgrowth (*To*).

Female. Total length 3.35–4.6. Carapace: 1.43–1.5 long, 1.07–1.23 wide. Coloration and shape as in male. Palpal tibia and tarsus dilated. Epigyne as in Figs. 7–11. Septum, basal unpaired hood (*Bh*) and pair of apical hoods (*Uh*) (insemination duct openings) well sclerotized, receptaculae translucent over integument in different extent and this make general appearance of epigynes slightly different. Inner structure of epigyne is rather complicated, after maceration only well sclerotized receptaculae is visible, insemination ducts (*Id*) are very transparent, and became well visible after exposing in Amido Black 10B (＝Amidoschwartz, ＝naphthol blue black) amido acid. Insemination ducts very long, they are wide in the entrance makes one wide coil apart of other, and then forms small five coils (*Ic*) which are close to each other. Receptaculae＜-shaped, subdivided into oval chambers.

Diagnosis. This species can be easily distinguished from all other *Prodidomus* species by copulatory organs. Males



Figs. 7–13. *Prodidomus redikorzevi* (7–11) from Turkmenistan and *P. cf. redikorzevi* (12–13) from Azerbaijan. — 7–10 and 12–13, epigyne, ventral; 11a, epigyne, dorsal; 11b, scheme of insemination duct course. 10–11a, after maceration in KOH. Scale = 0.1 mm.

of this species have unique for the genus long and coiled embolus with two complete loops, lacks distinct conductor, has outgrowth (tegular apophysis?) unknown in the other Prodidominae. Epigyne of *P. redikorzevi* is similar to those in *P. birmanicus* Thorell 1897 and *P. margala* Platnick 1976 from Pakistan. From the later species *P. redikorzevi* can be easily separated by the vulva with only three coils of insemination ducts. Vulva of *P. birmanicus* was never illustrated.

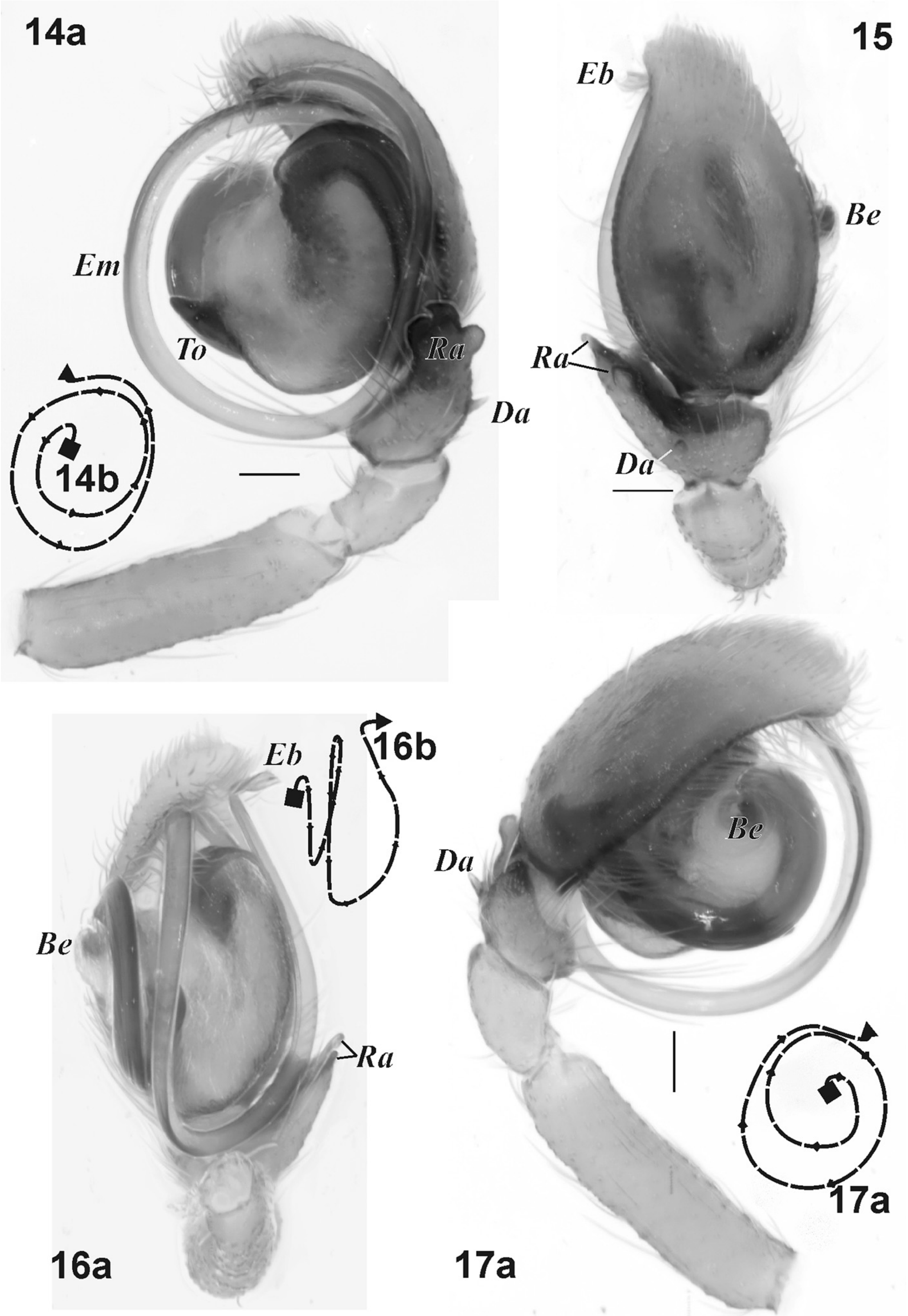
Comments. General appearance of this species is very similar to those in other *Prodidomus*, but copulatory organs are rather different. While several recent and older revisions have been published about Prodidomidae I have not seen figures or even verbal description of the female palp which are highly characteristic. I found indication about diluted, squat or tumid female palpal tarsi only in Cooke (1964).

I have collected several specimens of *Prodidomus* in Fars and Tehran Provinces of Iran and also in environs of Baku (= Baki) in Azerbaijan. All these specimens have lighter coloration of carapace and abdomen. All females have almost the same type epigyne, however specimens from Azerbaijan (Figs. 12–13) have slightly different proportions, thinner septum, and less wide apical hoods. Male palps of Iranian specimens are very similar in shape to *P. redikorzevi* but have some differences in plumage and tip of embolus. Turkmenian specimens have no differences in coloration or shape of the male palp. Although, it is not clear if differences has specific value or reflects geographical variability, it is easy to expect that specimens from three different localities in Iran and Azerbaijan represent a separate species.

Only few *Prodidomus* species have long and coiled embolus, *P. domesticus* Lessert 1938, *P. lampeli* Cooke 1964 and *P. purpureus* Simon 1907. The former, has wipe like terminal part and tegulum flattened in the same plain as cymbium, while *P. redikorzevi* has broad embolus and its tegulum flattened in plain perpendicular to the plain of the cymbium. *P. lampeli* and *P. purpureus* have similarly shaped embolus, but it is much shorter, makes less than one loop and has different type of tegulum.

It is likely that figure of the vulva of *P. margla* was not properly illustrated, because the upper part of insemination duct is not shown on the figure 7 (Platnick 1976).

Distribution. Type locality Serakhs (= Sarakhs) in



Figs. 14–17. Male palp of *Prodidomus redikorzevi*. — 14a, retrolateral; 15, dorsal; 16, ventral; 17, prolateral. 14b, 16b and 17b, schematic course of embolus. Scale = 0.1 mm.

southern Turkmenistan and environs of Kushka. Record of this species from northwestern Kazakhstan (Zyuzin & Tarabaev 1994; Zyuzin et al. 1994) may refer to sibling species. Records from Kazakhstan are the northernmost in the range of the whole family.

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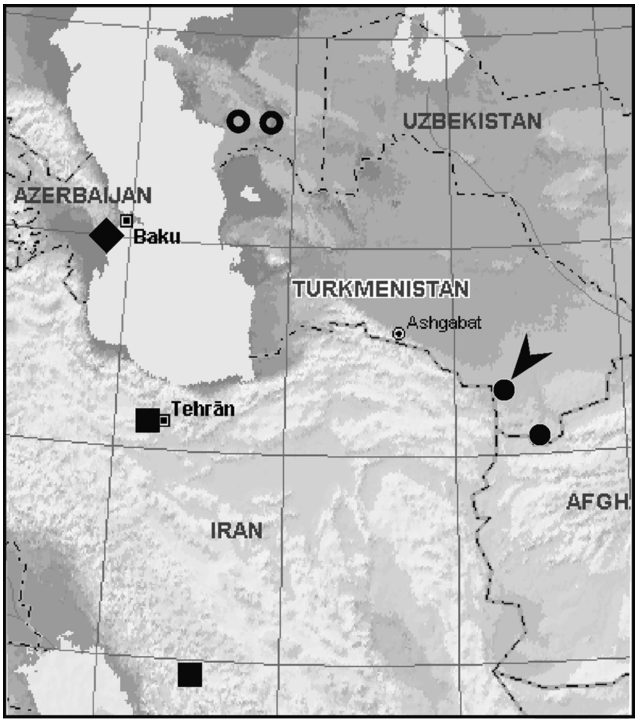

Map 1. Distribution of *Prodidomus redikorzevi* (dot) and sibling species (square and dimond). Dot with arrow — type locality, another filled dot — examined specimens, open circle — questionable records from SW Kazakhstan; square — two localities in Iran; diamond — locality in Azerbaijan.

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